National Aeronautics and Space Administration

Lyndon B. Johnson Space Center
Houston, Texas

Hail *Columbia*

The Space News Roundup reprints segments of the STS-1 air-to-ground transmissions. Story on Page 3.

Shuttle facts

America's space shuttle program has logged more than 200 million miles in space. More facts on Page 4.

Space News Roundup

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Space history began with Russian flight

[Editor's note: Today also is the 35th anniversary of the first launch of a human into space, the Russian Yuri Gagarin. This is a restrospective account of that first milestone in human space flight.]

By Rob Navias

At 9:07 a.m. Moscow time on April 12, 1961, a 27-year old Soviet Air Force lieutenant left the shackles of Earth strapped inside a tiny Vostok capsule to begin humanity's journey away from its home planet.

From a wind-swept desert launch site in Central Asia, Yuri Gagarin began a 90-minute journey that would propel his name into the history books and Russia into the lead in a race with the U.S. for space supremacy which would culminate with Americans planting the first footprints on the Moon eight years later.

Gagarin

Gagarin was born in the village of Klushino in the Western Soviet Union. His father was a carpenter, of meager means. But Gagarin became fascinated with airplanes as a youngster, ultimately entering an industrial training college where he gained experience flying and parachute jumping. He joined the Soviet Air Force in 1957, and three years later, was accepted to be trained by Chief Designer Sergei Korolev as a cosmonaut. He had logged only 230 hours in the air.

Gagarin's mission 35 years ago was kept a secret from the Russian people until after he reached orbit.

"I see the Earth," Gagarin told flight controllers soon after entering orbit. "The sky looks very, very dark and the Earth is bluish."

As soon as Gagarin began his one orbit of the Earth, Moscow radio announced the launch to the world. Crowds began to gather in Red Square, cheering and embracing.

Traveling at a speed of five miles a second, Gagarin spent more than an hour circling the planet, drinking from a small water supply housed in a container mounted on his right shoulder. He found weightlessness very pleasant, even had success writing some notes on a pad.

The flight ended soon after it began, as an automatic computer reoriented the Vostok capsule for the retrofire to enable the ship to reenter the Earth's atmosphere. Through a pair of portholes, Gagarin saw what no human had ever seen, the fiery

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NASA Photo

After six years of silence, the thunder of manned space flight is heard again with the launch of the first space shuttle. *Columbia*'s launch on April 12, 1981 ushers in a new concept in space flight and carries Commander John Young and Pilot Robert Crippen. The first shuttle mission lasted 2 days, 6 hours, 20 minutes and 52 seconds.

STS-1 party begins today

JSC's "Liftoff Party" celebrating the 15th anniversary of STS-1 begins toady with a variety of activities.

The party, a combined celebration of human space flight and the rich traditions of the Russian and American space programs and their new partnership, is being held in conjunction with an all-day Saturday Russian festival sponsored by City of Nassau Bay, the sister city of Star City, Russia.

The party will be held today at Space Center Houston from 5-9 p.m. A short program will include guest speakers John Young, Cosmonaut Vladimir Titov and a special message from Lucid. Exhibits will include photographs by Andrew "Pat" Patnesky, and selected artwork by Julia Felgman, Andre Sokolov and Alexei Leonov.

Nassau Bay's Saturday activities kick off at 6:30 a.m. with the launch

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Columbia hailed as incredible flying machinery

[Editor's note: Today is the 15th anniversary of the first launch of a reusable spacecraft, the Space Shuttle Columbia*. This is a reprint of the story that ran in the April 14, 1981, edition of Space News Roundup.]*

Spaceship *Columbia* roared into orbit April 12 from Florida's Kennedy Space Center.

Maneuvering through space and circling Earth 36 times, Astronauts John Young and Robert Crippen tested its systems then landed like an airplane on schedule, 2 days, 6 hours, 20 minutes and 52 seconds later.

The world hailed *Columbia* as the first true spaceship — an incredible flying machine It heralded the beginning of the era of manned round-trip travel from Earth.

The launch preceded with a message nine minutes before liftoff from President Ronald Reagan. It was read by George Page, Shuttle launch director:

"You go forward this morning in a daring enterprise and you take the hopes and prayers of all Americans with you," said the President's message.

"As you hurtle from Earth in a craft unlike any other ever constructed you will do so in a feat of American technology and American will."

Rising on a throne of 6.6 million pounds of thrust, *Columbia* at first flew steeper than programmed, its three main hydrogen-powered engines and two solid rocket motors driving skyward.

Columbia made a 100-degree roll to the right heading for its imaginary target. Two minutes and 12 seconds later, the solid rocket boosters were jettisoned, to be recovered later 151 miles downrange.

Eight minutes and 34 seconds later, the main engines cut off. The speed was 25,670 feet per second. The external tank was jettisoned and broke up over the Indian Ocean, debris landing as programmed 21,000 miles downrange from Kennedy Space Center.

Columbia's Orbital Maneuvering System (OMS) took over at 10 minutes firing for 1 minute and 27 seconds to establish an orbit of 132 by 57 nautical miles. A second OMS burn achieved a 130-mile circular orbit. A third at 6 hours 20 minutes set the orbit at 148 by 131.7 miles and a fourth added 30 feet-per-second to set the circular orbit at 149.3 by 147.6.

Columbia then began a series of tests. Its payload bay doors were opened twice, allowing astronauts to utilize the space radiator cooling systems.

The morning of Day 3 arrived and Astronauts Young and Crippen readied for the crucial test of a winged Earth entry and wheels-downing landing. Previous spacecraft returned to Earth with parachutes and splashdown.

Earth entry lasted about 31 minutes as the spacecraft *Columbia* entered the atmosphere 400,000 feet above Earth. At this point

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Endeavour work enters home stretch

By James Hartsfield

Preparations for a mid-May launch of *Endeavour* entered the home stretch this week as the orbiter was rolled out of its hangar to Kennedy Space Center's Vehicle Assembly Bldg. to be mated with the STS-77 solid rockets and fuel tank.

Endeavour is expected to be moved to Launch Pad 39B on Tuesday morning, a schedule that could allow a launch as early as May 16. Monday, the Spacehab payloads will be delivered to the launch pad to await *Endeavour*.

The STS-77 crew — Commander John Casper; Pilot Curt Brown; and Mission Specialists Andy Thomas, Dan Bursch, Mario Runco and Marc Garneau — will travel to KSC on April 23 for a dress rehearsal of the launch countdown.

Elsewhere, the ferry flight of *Atlantis* from California to Florida encountered problems this weekend as it departed Edwards Air Force Base. One of the four engines on the Shuttle Carrier Aircraft, a modified Boeing 747, showed indications of a possible fire just after takeoff from Edwards on Saturday. SCA Pilots Gordon Fullerton and Tom McMurtry shut down the right inboard engine and returned for a landing at Edwards without incident on the remaining three engines. The SCA and *Atlantis* were airborne for a total of less than 15 minutes.

Technicians immediately began work to replace the engine and prepare for another departure, perhaps as early as late this week. *Atlantis* and the SCA were not damaged.

Meanwhile, *Columbia* is in the Bay 2 shuttle processing hangar at KSC being readied for a mid-June launch on STS-78. Upcoming milestones include the installation of main engines beginning on Wednesday and installation of the Life and Microgravity Sciences module into the payload transfer canister April 22.

Mir experiments under way

Priroda science module to launch soon

By Kyle Herring

Two weeks after *Atlantis*' undocking from the Russian Mir Space Station, the Mir-21 crew has settled into an on-orbit routine of experiment work, including material and life sciences research as well as Earth observations that begins a permanent U.S. presence in space.

Meanwhile, at the Baikonur launch site in Kazahkstan, the Priroda module scheduled for launch later this month is in its final stages of preparation.

Cosmonaut/Researcher Shannon Lucid and her Russian cosmonaut colleagues Commander Yuri Onufrienko and Flight Engineer Yuri Usachev have begun a series of experiments designed to be carried out over the course of their long-duration flight that will better demonstrate what life on the International Space Station will be like.

Officially Lucid became a member of the Mir-21 crew while *Atlantis* was docked to the station. Since the shuttle's departure, her activities, along with the cosmonauts' are coordinated at the Mission Control Center in Kaliningrad outside Moscow with inputs from a NASA science expert consulting group in Moscow.

Last week the crew focused on the first of many experiments called the Optizon Liquid Phase Sintering Experiment, or OLiPSE. The American experiment is the first designed to be conducted in the Russian furnace. The Optizon furnace operates at high-temperatures to process materials for further study on the ground.

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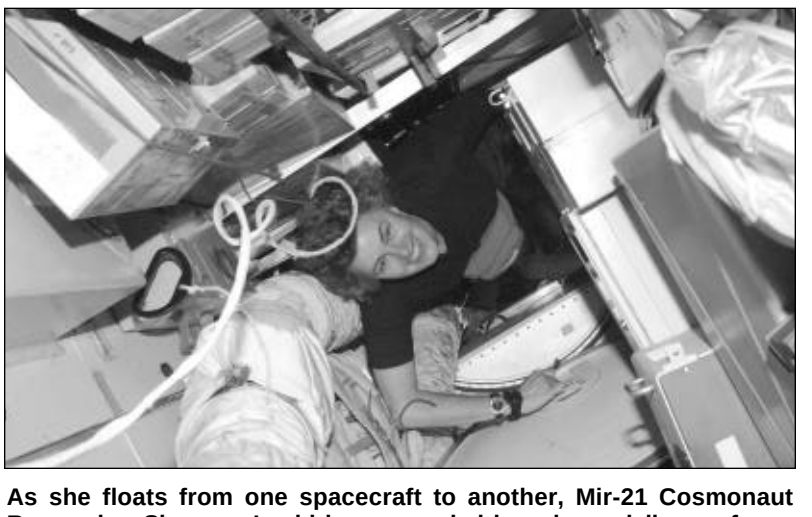

As she floats from one spacecraft to another, Mir-21 Cosmonaut Researcher Shannon Lucid is surrounded by a large delivery of new supplies for the Russian Mir Space Station.